VCL-XC 64 Port Electronic Intelligent Patch Panel
E1 to E1 Patch Panel

Product Brochure & Data Sheet

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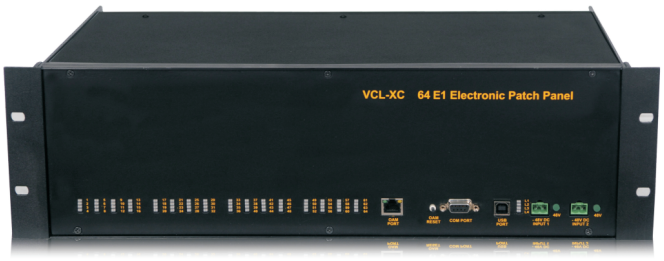
Product Description



The VCL-XC, 64 E1 Electronic Patch Panel allows the user to cross-connect any E1 port to any E1 port, electronically through user executable software commands, without having to use any patch-cords or loosely hanging inter-connect cables.

VCL-XC, 64 E1 Electronic Patch Panel also provides the user with the capability to uni-directionally broadcast a E1 input to multiple E1 destinations.

The patch-panel may be accessed remotely over a TCP/IP link using Telnet. This allows the user to create / patch new circuits remotely and make new E1 cross-connections on the fly. SNMP V2 Traps are also generated over a UDP link, which allows the user to monitor the patch-panel and all E1 circuits remotely for any alarms. An MIB file is provided with the patch-panel to allow easy integration with customer's network management systems (NMS), or for easy integration with standard SNMP browsers.

Where it should be used, who should use it and in which applications:

VCL-XC, 64 E1 Electronic Patch Panel is designed to be used in Central Offices, Data Centers, Command and Control Centers, Remote Cell Sites, Utilities and Dealing Rooms seeking to eliminate the jungle of external patch-cords and loosely hanging wires which usually exists in locations where E1 patch-panels are installed.

Why it should be used:

VCL-XC, 64 E1 Electronic Patch Panel eliminates the use of patch cords and the maze of loosely hanging inter-connect wires.

Easier Management - VCL-XC, 64 E1 Electronic Patch Panel allows easier management of the E1 cross-connects since all cross-connects can be made and managed from a central location over TCP/IP or UDP Network using either CLI (text) commands, or a GUI.

Efficient Management - VCL-XC, 64 E1 Electronic Patch Panel allows a more efficient management since a log / database of all circuit patches / cross-connects can be saved and archived as a MS (Microsoft) Access database file and retrieved and re-loaded whenever required.

VCL-XC, 64 E1 Electronic Patch Panel eliminates the need for labeling the patch-cords and inter-connected wires since all inter-connection records are automatically retained in the system's non-volatile memory. Additionally, the same can also be saved and archived as a MS (Microsoft) Access database file from the system's GUI.

VCL-XC, 64 E1 Electronic Patch Panel can easily be integrated into any standard existing customer's NMS. An MIB file is provided with the equipment for easy integration.

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An Intelligent Patch Panel:

VCL-XC, 64 Port E1 Electronic Patch Panel keeps the user informed of potential problems by generating SNMP V2 alarms.

VCL-XC, 64 Port E1 Electronic Patch Panel generates SNMP V2 alarms and is supplied with an MIB file which allows the user to easily integrate the VCL-XC, 64 Port E1 Electronic Patch Panel into their NMS (Network Management Software) for faster trouble-shooting and fault rectification. This results in more efficient network control and fault management.

VCL-XC, 64 Port E1 Electronic Patch Panel also maintains a log of the 200 most recent time-stamped events, as they occur in real-time, by storing them in the system memory. These events may be viewed at any time by a user. The system event log is maintained in addition to SNMP V2 traps, which the equipment sends out to a centralized NMS, when such events or alarms occur.

User friendly the equipment may be assessed remotely using Telnet, GUI (Graphical User Interface) or SNMP over an Ethernet link through the system's 10/100BaseT Ethernet Port. The equipment may be also accessed locally through either an RS232 (DB9) serial or a USB COM Port.

Highlights:

- 64 circuit, E1 to E1 electronic, remotely manageable patch panel
- Allows the user to cross-connect between any E1 port to any E1 port, or any E1 port to Multiple E1 Ports (in a broadcast mode only), electronically
- Eliminates the use of the messy, loose, hanging inter-connect wires
- Host of alarms for trouble shooting and maintenance
- SNMP - V2 Traps / Alarms
- Telnet and GUI based remote management features
- Dual power inputs (1+1) to connect the equipment to two separate - 48V DC power sources for power source redundancy
- Compact. Available in 19-inch, 2U shelf (DB37 connector) version, and a 19-inch, 3U shelf (RJ45 connector) version.

Indications and Alarm Monitoring

- Loss of incoming signal at any E1 Port
- Configuration error alarm
- 64 LED indicators to indicate the status of each E1 link
- System's internal 3 Volts power supply present
- External -48V DC input present
- System Self Test Error.

Programmable Features

- Enabling or disabling E1 channels (masking alarms) of the E1 channels that are un-connected and not in use
- Creating a cross connect between E1s using the Windows based, easy to use GUI
- Telnet interface for remote programming by using text commands

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Status Monitoring:

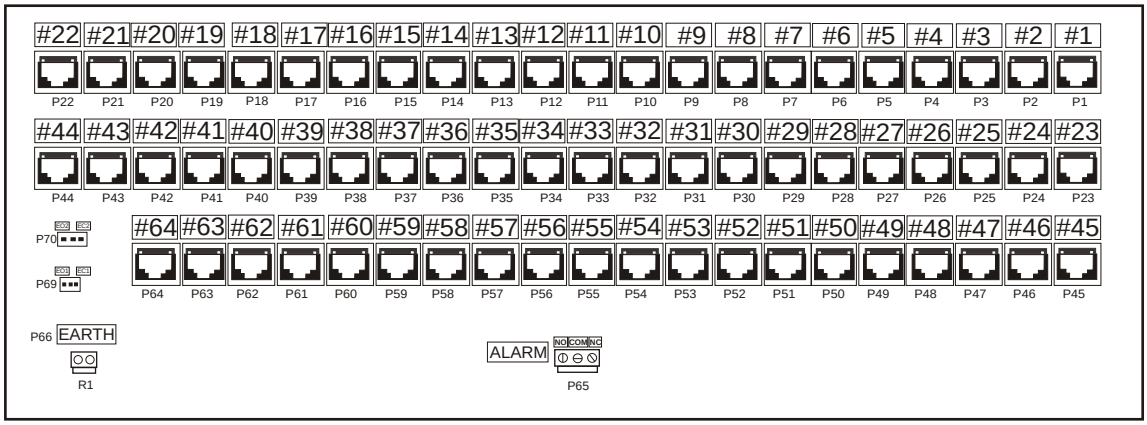
- Status of alarms
- Enabled / Disabled status of E1 ports
- Monitoring of the VCL-XC, 64 Port E1 Electronic Patch Panel status and configuration
- SNMP - V2 Traps / Alarms.

Dual Power Inputs:

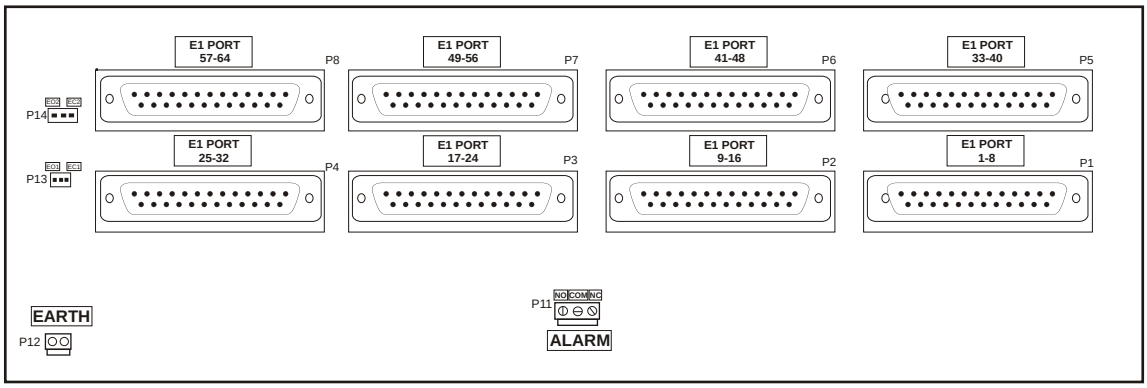
- The system provides dual -48V DC power inputs for connecting the equipment to two separate -48V DC power sources for added security and power backup.

Rear View

Option 1 - with 3U high, rack-mountable RJ-45 (F) 19-inch shelf



Option 2 - Rear View - with 2U high, rack-mountable DB-37 (F) 19-inch shelf



Technical Specifications

E1 Interface

Maximum Number of Interfaces	64 E1 Interfaces
Conformity (Electrical)	ITU-T G.703
Framing	Transparent (PCM30 and PCM31)
Bit Rate	2048 Kbps ± 50 ppm
Line Code	HDB3
Nominal Impedance	120 Ohms balanced
Peak Voltage of a mark For 120 Balanced interface	3.0 V ± 0.3 V
Peak Voltage of a space For 120 Balanced interface	0 V ± 0.3 V
Nominal Pulse Width	244 ns
Pulse Mask	As per ITU (CCITT) Rec. G.703
Output Jitter	<0.05 UI (in the frequency range of 20Hz to 100 Khz)
Permissible Attenuation	6 dB at 1 Mhz
Return Loss at: 51.2 KHz to 102.4 KHz 102.4 KHz to 2048 KHz 2048 KHz to 3072 KHz	 > 12dB > 18dB > 14dB
Jitter Tolerance	As per ITU (CCITT) G.823
Connectors	64 x RJ-45 (F) connectors - 19 Inch 3U shelf version
Connectors	64 Port, 8 x DB37 (F) connectors - 19 Inch 2U shelf version

System Management and Access

- Windows XP and Windows 7 compatible Graphical User Interface (GUI)
- Telnet - CLI (Command Line Interface)
- SNMP V2 (MIB File provided with the equipment).

Management and Control Port

- Serial Management Port (RS232) - COM Port
- USB Serial Port
- 10/100BaseT for remote management over a LAN / TCP/IP network.

Command Language

- Command Line Interface (english text commands)

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Management

Network interface	RJ-45 Ethernet 10BaseT or 100BaseTx (auto sensing),MDI-X.
Compatibility	Ethernet Version 2.0 IEEE802.3
Protocols supported	ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP
LEDs	10Base-T and 100Base-TX Activity, Full/half duplex.
Management	SNMP, Serial login, Telnet login
EMI Compliance	Radiated and conducted emissions complies with Class B limits of EN55022:1998
	Direct and Indirect ESD complies with EN55024:1998
	RF Electromagnetic Field Immunity complies with EN55024:1998
	Electrical Fast Transient/Burst Immunity complies with EN55024:1998
	Power Frequency Magnetic Field Immunity complies with EN55024:1998
	RF Common Mode Conducted Susceptibility complies with EN55024:1998

Power Supply Specifications

Input DC Voltage	-48V DC (nominal)
Range of Input Voltage	-18V DC to -72V DC
Input Voltage Reversal Protection	Protected
Over Current Protection	3 Amperes
Short Circuit Protection	Current limit up to 3 Amperes recovers on removal of short circuit
Efficiency at Full Load	>93%
Ripple at Full Load	<5mVrms
Spike at Full Load	<50mV

Power Supply

Power supply	-48V DC (-18V DC to -72V DC)
Power supply	Redundant (1+1 Protected) Inputs
Power consumption	14 watts (maximum)

Environmental

Temperature and Humidity	0°C to + 50°C, 90% R.H. (Non-condensing)
Altitude	Upto 9,000 feet

Compliance

- FCC Part 68, Class B
- CE

Chassis

- Option 1 - 3U high, rack-mountable RJ-45 (F) 19-inch shelf
- Option 2 - 2U high, rack-mountable DB-37 (F) 19-inch shelf

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Dimensions

Particulars	3U high, rack-mountable RJ-45 (F) 19-inch shelf	2U high, rack-mountable DB-37 (F) 19-inch shelf
Depth	292 mm	260 mm
Width	485 mm	485 mm
Height	3U (133.33 mm)	2U (90 mm)

Ordering Information

S.No.	Part No.	Product Description
1.	VCL-XC-1466_1467-ELE-E1-120-RJ45F-64	VCL-XC 64 E1 Electronic Patch Panel VCL-XC, 64 Port [64xRJ45F] Electronic Intelligent Patch Panel (E1 to E1) 19" Shelf 3U High Rack Mount Version Supports : - 64 x E1 interface [120 Ohms, 64 x RJ45 (F) Connectors] - 2 x -48V DC Power Supply Input - 1 x System Core Cables, Installation Accessories, Documentation, System User Manual / Disk etc - OAM : [SNMP, Telnet (RJ45 Port) and Serial Port (USB and DB-9 COM port)
2.	VCL-XC-1466_1468-ELE-E1-120-DB37F-64	VCL-XC 64 E1 Electronic Patch Panel VCL-XC, 64 Port [08xDB37F] Electronic Intelligent Patch Panel (E1 to E1) 19" Shelf 2U High Rack Mount Version Supports : - 64 x E1 interface [120 Ohms, 8 x DB37 (F) Connectors] - 2 x -48V DC Input Power Supply - 1 x System Core Cables, Installation Accessories, Documentation, System User Manual / Disk etc - OAM : [SNMP, Telnet (RJ45 Port) and Serial Port (USB and DB-9 COM port)
3.	VCL-1514_1513-CON-120-DB37F-75-BNCF-16	16 x E1, 120? [2xDB37F] to 75? [32xBNCF] Converter Panel 19" Metal case 1U High Rack Mount Version [Includes : DB37M-DB37M Cables] [BNC cables not included]

Technical specifications are subject to changes without notice.
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